

ABSTRACT

The present invention is a power conditioning circuit. The invention is comprised of multiple comparators and a bilateral switch. The invention converts the high-frequency, high-voltage output signal from a piezoelectric transformer to a desired low-frequency voltage signal, examples including but not limited to sinusoidal, sawtooth, ramp, and square waves, at the output amplitude voltage. The circuit switches the high-frequency AC output, also referred to as the driving waveform, into the load at precisely the instant when the driving waveform crosses the present voltage load value, and switches it out when the load waveform reaches the desired voltage. Thereafter, the switch is opened and the reactance of the load or an additional output capacitor element holds the voltage until the next switching cycle.